

# S P E C I F I C A T I O N

## TITLE

### ANTENNA ARRANGEMENT FOR MOBILE COMMUNICATION

#### TERMINALS

This application is a 371 of PCT/EP04/13237 11/22/2004.

#### FIELD OF TECHNOLOGY

[0001] The present disclosure relates to an antenna arrangement for mobile communication terminals, in particular those which support a plurality of mobile radio communication standards.

#### BACKGROUND

[0002] Mobile communication terminals for supporting a plurality of mobile radio communication standards are being developed at the present time. For this purpose, it is necessary to provide an antenna arrangement which is able to operate in accordance with the stipulations of the individual mobile radio communication standards.

[0003] One possible approach in this regard is to provide a separate antenna for each of the mobile radio communication standards supported. In this case, it must be taken into account that currently conventional or future mobile radio standards differ, in principle, by virtue of the frequency range specifically reserved in each case. For a respective frequency range, that is to say for reception or transmission of electromagnetic signals within this frequency range, antennas are required which in a predominant number of cases have the length  $\lambda/4$ , where  $\lambda$  is a wavelength within the frequency range.

[0004] In this context, the term "software defined radio" is of particular importance since this means mobile communication terminals which are intended to cover as many different mobile radio communication standards as possible and thus also receive different carrier frequencies. An antenna arrangement suitable for this may therefore either comprise a plurality of antennas or else a broadband antenna is used such that it can operate all the mobile radio standard frequency ranges supported. However, such a broadband antenna will have the disadvantage that it is not optimally adapted for a respective application in a specific frequency